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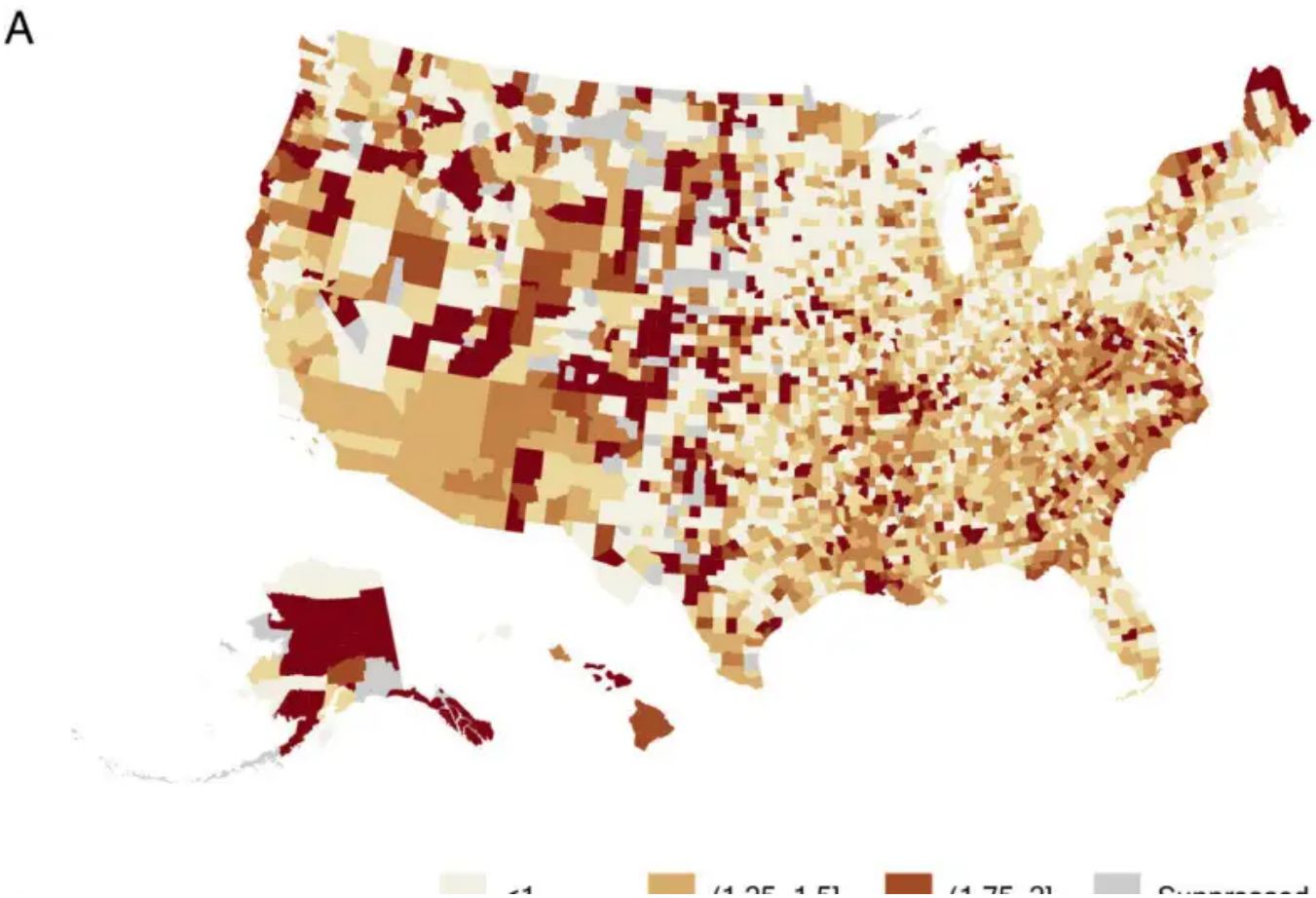
# New analysis reveals many excess deaths attributed to natural causes are actually uncounted COVID-19 deaths

by Boston University




Ratios of excess natural-cause deaths to reported COVID-19 deaths across US counties from March 2020 through August 2022. In panel A, darker counties represent counties with higher ratios of excess natural-cause mortality to reported COVID-19 mortality. In panel B, darker counties represent counties where there is greater certainty that excess natural-cause deaths exceeded reported COVID-19 deaths during the period. Suppressed values reflect counties in which the cumulative number of reported

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A new study provides the most compelling data yet to suggest that excess mortality rates from chronic illnesses and other natural causes were actually driven by COVID-19 infections,

disproving high-profile claims that have attributed these deaths to other factors such as COVID vaccinations and shelter-in-place policies.

Nearly 1,170,000 people have died from COVID-19 in the United States, according to official federal counts, but multiple excess mortality studies suggest that these totals are vastly undercounted. While excess mortality provides an estimation of deaths that likely would not have occurred under normal, non-pandemic conditions, there is still little evidence into whether the SARS-CoV-2 virus contributed to these additional deaths, or whether these deaths were caused by other factors such as health care disruptions or socioeconomic challenges.

Now, a new study led by Boston University School of Public Health (BUSPH) and the University of Pennsylvania (UPenn) provides the first concrete data showing that many of these excess deaths were indeed uncounted COVID-19 deaths.

Published in the journal *PNAS*, the study compared reported COVID-19 deaths to excess deaths due to non-COVID natural causes, such as diseases and chronic illnesses, and found that increases in non-COVID excess deaths occurred at the same time or in the month prior to increases in reported COVID-19 deaths in most US counties.

Focusing on excess deaths by natural causes rather than all-cause excess death estimates provides a more accurate understanding of the true number of deaths attributable to COVID-19, as it eliminates external causes for mortality, such as intentional or unintentional injuries, for which COVID-19 would not be a contributing factor.

"Our findings show that many COVID-19 deaths went uncounted during the pandemic. Surprisingly, these undercounts persisted well beyond the initial phase of the pandemic," says study corresponding author Dr. Andrew Stokes, associate professor of global health at BUSPH, who has led numerous studies analyzing excess mortality patterns and drivers during the pandemic.

The temporal correlation between reported COVID-19 deaths and excess deaths reported to non-COVID-19 natural causes offers insight into the causes of these deaths, he says. "We observed peaks in non-COVID-19 excess deaths in the same or prior month as COVID-19 deaths, a pattern consistent with these being unrecognized COVID-19 deaths that were missed due to low community awareness and a lack of COVID-19 testing."

If the primary explanation for these deaths were health care interruptions and delays in care, the non-COVID excess deaths would likely occur after a peak in reported COVID-19 deaths and subsequent interruptions in care, says study lead author Eugenio Paglino, a Ph.D. student studying demography and sociology at UPenn. "However, this pattern was not observed nationally or in any of the geographic subregions we assessed," Paglino says.

Importantly, these findings also disprove political assertions or public beliefs that have attributed mortality during the pandemic to COVID-19 vaccinations or shelter-in-place policies.

**More information:** Eugenio Paglino et al, Excess natural-cause mortality in US counties and its association with reported COVID-19 deaths, *Proceedings of the National Academy of Sciences* (2024). DOI: 10.1073/pnas.2313661121

Provided by Boston University

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